The extinct Kangaroo Island Emu, a hitherto-unrecognized species

by Shane A. Parker

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Dwarf emus are known to have occurred on Kangaroo Island, South Australia, and King Island in Bass Strait. The populations of both islands appear to have become extinct soon after the advent of European settlement. In the course of a study of their taxonomy and nomenclature (Parker in

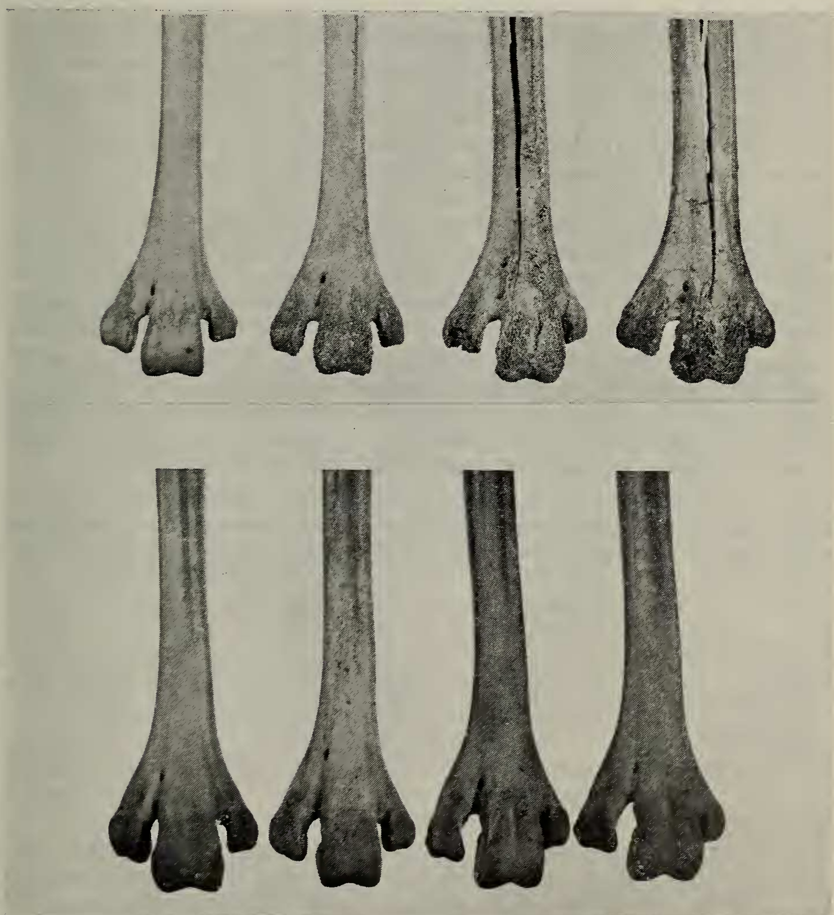

PLATE 3. Anterior faces of distal ends of tarsometatarsi of *D. ater* (top row) and *D. baudinianus* (bottom row), about 7/12 natural size. Note than in *baudinianus* the eintrtrochlear foramen is open (closed by a bridge in most specimens of *ater*), and the outer trochlea more strongly incurved and produced towards the middle trochlea.

prep.) I found that, contrary to general belief, the Kangaroo Island emu was not the same as the King Island emu, and that the 2 populations constituted 2 distinct species. Jouanin (1959) has demonstrated that all scientific names previously thought to have been based on the Kangaroo Island bird were in fact based on the King Island emu or were for some other reason inapplicable. The species from Kangaroo Island therefore requires to be named. The full study, already well advanced, will be published later; below, I name and diagnose this hitherto-unrecognized form.

Dromaius baudinianus sp. nov. Kangaroo Island Emu

Holotype. South Australian Museum (SAM) (Dept. of Ornithology) B6891b, complete adult left tarsometatarsus, from Kelly's Hill (in cave), Kangaroo Island, South Australia, collected 24 July 1926 by staff of the then Fauna and Flora Board of South Australia (listed in Morgan & Sutton 1928).

Paratypes. SAM Dept of Ornithology: all other skeletal material from Kangaroo Island listed in Morgan & Sutton (1928), *viz*. B6814–6830, 6832–6854, 6889–6896, and in addition: B15, rib, from Cape du Couedic, F. W. Giles, reg'd 21 March 1911; B11160, 4 toe-bones, near Eleanor River, 28 Jan. 1926, N. Tindale; B11754–11765, 2 crania, 5 vertebrae, 13 ribs, one coracoscapula, 3 sterna, 2 humeri, one incomplete pelvis, 2 femora, 6 tibiotarsi, 4 fibulae, 8 tarsometatarsi, one toe-bone, from Kelly's Hill caves, reg'd 1928; B24681, cranium and part of synsacrum, from Kelly's Hill caves, 17 Jan. 1956, South Australian Cave Exploration Group; B30866–30874, one cranium, 3 vertebrae, 5 ribs, one scapula, one sternum, one pelvis, 2 femora, one tibiotarsus, one tarsometatarsus, from Emu Cave near Mount Stockdale, July 1965, I. S. Davis; SAM Dept of Palaeontology: P17109–17121, 3 sterna, 5 synsacra, 2 femora, 2 tibiotarsi, one tarsometatarsus, from Emu Cave, 20 Aug. 1966, N. Pledge; P23501–23521, 16 vertebrae, 8 ribs, one coracoid, one scapula, one sternum, one humerus, 2 synsacra, 6 femora, 7 tibiotarsi, 7 tarsometatarsi, one toe-bone, from Kelly's Hill caves, no data.

Table 1. Lengths (mm) of tarsometatarsi and tibiotarsi of the extinct dwarf emus *D. ater* (King I.) and *D. baudinianus* (Kangaroo I.); for methods of measurement, see text. *For the tibiotarsi of *D. ater*. (a) represents the class surmised to be males, and (b) the class surmised to be females; both classes include the intermediate value 284.5 mm.

		Number of specimens	Range	Mean	SD
Tarsometatarsus					
D. ater		50	205.0–278.0	232.12	16.079
D. baudinianus		25	253.7–279.3	269.30	7.343
Tibiotarsus					
*D. ater**		38	237.0–323.2	273.02	21.765
	(a)	28	237.0–284.5	261.80	10.880
	(b)	11	284.5–323.2	301.64	12.542
D. baudinianus		30	293.4–320.9	305.58	7.330

Diagnosis (based on mature tibiotarsi and tarsometatarsi only). Differs from the King Island Emu *D. ater* Vieillot, 1817 (Syn. *D. parvulus* Gould *in* Broderip, 1842 and *D. minor* Spencer, 1906; *vide* Parker in prep.) in having the average length of the tibiotarsus and tarsometatarsus pronouncedly greater, and in showing no apparent (? sexual) dimorphism in the length of the tibiotarsus (Table 1, and Parker in prep.). Differs also in having the intertrochlear foramen of the tarsometatarsus open (unbridged) in all specimens examined (this foramen is usually fully or partly bridged in the King Island Emu) and in having the outer trochlea more strongly incurved and produced towards the middle trochlea, thus constricting the external intertrochlear notch distally in contrast to this notch's more parallel-sided condition in the King Island Emu (Plate 1).

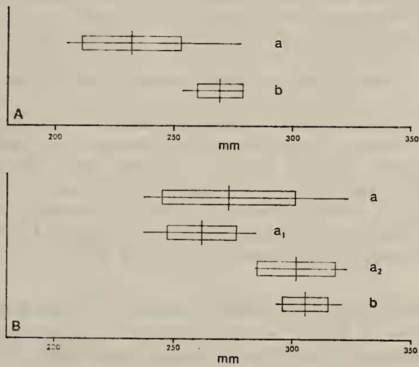

Figure 1. A, length (mm) of tarsometatarsi of (a) *D. ater*. (b) *D. baudinianus*; B, length of tibiotarsi of (a) *D. ater*. (a_1) putative males, (a_2) putative females, (b) *D. baudinianus*; mature bones only. The vertical line represents the mean, the horizontal line the range, and the rectangle the standard deviation x 1.3 either side of the mean (within which 90% of the sample population may be expected to occur).

Remarks. Whereas most of the tibiotarsi and tarsometatarsi of *D. baudinianus* are in an excellent state of preservation, most of those of the King Island Emu are too worn at their extremities for comparisons of total lengths to be valid. The measurements were therefore taken of the distance between certain subterminal points little affected or not affected by wear: on the tibiotarsus, the highest point of the proximal articulating surface and the deepest point of the distal intercondylar groove; and on the tarsometatarsus, the highest point of the proximal articulating surface and the deepest point of the groove in the middle trochlea.

Simple statistical analyses of the measurements are presented in Table 1 and Fig. 1. The bimodal distribution indicated for the tibiotarsal length in the King Island Emu was discerned from a basic histogram (Parker in prep.), and suggests sexual dimorphism. Also noteworthy is the more restricted spread in the tibiotarsal and tarsometatarsal lengths of *D. baudinianus*, which is suggestive of taphonomic differences between the samples of the 2 species (Parker in prep.). It also means that the true size-range for these elements in *D. baudinianus* is almost certainly greater than that of the sample to hand. In the forthcoming paper, an attempt will be made to derive a normal distribution from these apparently truncated distributions of *D. baudinianus*, and thereby estimate the true size-range of the elements in question. In the present article, only the size-ranges shown by the available material are given.

Etymology. It is with pleasure that I name this species after Post Captain Nicholas Baudin (1756–1803), commander of the French expedition to Australia of 1801–1804, whose party obtained the first specimens of both the Kangaroo Island Emu and the King Island Emu. I have used the adjectival form *baudinianus* rather than the genitive form *baudini* out of personal preference, notwithstanding the preference for the latter indicated in the International Code of Zoological Nomenclature, Appendix D 16(a).

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The identity of swamp-dwelling weavers in northeast Angola

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The peculiar distribution of at least 3 species of isolated swamp weavers—*Ploceus reichardi*, *P. katangae* and *P. ruweti*—around certain lakes in southeastern Zaire and neighbouring Tanzania and Zambia was pointed out in a paper describing *P. ruweti* from Lake Lufira (Louette & Benson 1982).

Since then, which species occurs at Lake Dilolo (11°30'S, 22°00'E, in Rosa Pinto 1965) in eastern Angola has become speculative. Rosa Pinto mentions 3 immature males from there, which he refers to as *P. velatus tahatali* (=*shelleyi*; see Clancey 1974), a drier country weaver, allopatric to the others. *P. velatus* is at present known to occur in northwestern Zambia only in the Balovale district, not in Mwinilunga (Benson & Irwin 1967, *contra* White 1946) and also in southern Angola, but nowhere in the close vicinity of Lake Dilolo, having the core of its distribution more to the south.

However, the Centro de Zoologia, Lisbon (CZL) has no less than 7 specimens from Lake Dilolo and 2 more from neighbouring Lake Cameia (11°35'S, 20°45'E). All 9 specimens were made available to me for examination through the courtesy of Prof. J. Tendeiro. They were collected in August and September 1958, though none of the Lisbon specimens bears the date 18, 20 or 24 August as do the 3 mentioned by Rosa Pinto. Presumably